Guidance on Additionality for the Approval of Abatement Projects under the Greenhouse Friendly™* Initiative

What is additionality?

Additionality is a requirement under the Greenhouse Friendly™ initiative that any emissions abatement achieved by approved abatement projects is *additional to any emissions abatement that would have occurred in the absence of the initiative*†.

In essence this means that the project would not have gone ahead under a 'business-as-usual' scenario; its implementation is contingent on approval under Greenhouse Friendly and the generation of revenue from the sale of additional Greenhouse Friendly abatement as carbon offsets.

The level of *additional* abatement generated by a project is the difference between the emissions associated with the project (or project emissions) and the emissions under the business-as-usual scenario (or baseline emissions). Demonstrating the additionality of a proposed Greenhouse Friendly project requires satisfying several steps to transparently establish that it would not have gone ahead as part of the business-as-usual scenario. The steps that are required to be completed to demonstrate the additionality of a proposed Greenhouse Friendly project are outlined below.

The requirement of additionality is also found in international law, most notably in the Clean Development Mechanism (CDM) of the Kyoto Protocol. This fact sheet draws from the CDM's additionality tool.
(http://cdm.unfccc.int/methodologies/PAmethodologies/AdditionalityTools/Additionality_tool.pdf).

Why is additionality applied?

Additionality protects the environmental integrity of the Greenhouse Friendly initiative by ensuring that:

- abatement projects approved under the Greenhouse Friendly initiative achieve real, measurable, permanent emissions abatement; and
- the Greenhouse Friendly initiative is not exploited as a means of generating added revenue from abatement projects that would have been implemented even in the absence of the initiative.

* Greenhouse Friendly is a trademarked initiative of the Australian Government

† A "project activity", which may constitute an entire project or a component or sub-element thereof, is defined for the purposes of the Kyoto Protocol's Clean Development Mechanism as "a measure, operation or an action that aims at reducing greenhouse gases". See *Glossary of CDM Terms Version 1*, accessible online at http://cdm.unfccc.int/Reference/Guidclarif/glossary_of_CDM_terms.pdf.

How is additionality demonstrated?

The tests that must be completed in order to demonstrate the additionality of a proposed Greenhouse Friendly abatement project are:

1. Regulatory/compliance analysis; applicants must first demonstrate that the proposed Greenhouse Friendly project is not being implemented in order to comply with any legal, regulatory or licensing requirement under any Australian national or state law.

   Once Regulatory/compliance analysis has been successfully completed, applicants must demonstrate that the proposed Greenhouse Friendly project could only be implemented if approved under Greenhouse Friendly. There are two alternative means of doing this: Investment analysis **or** Barrier analysis.

2A. Investment analysis; applicants must demonstrate that a proposed Greenhouse Friendly project will rely upon revenue generated from the sale of Greenhouse Friendly abatement to ensure its ongoing financial viability.

2B. Barrier analysis; applicants must demonstrate that a proposed Greenhouse Friendly project faces a specific barrier or barriers that prevent the project's implementation, and it can only be implemented with Greenhouse Friendly approval.

   Barrier analysis should only be used to prove additionality where investment analysis can be demonstrated to be inappropriate or unsuitable.

Once Investment analysis or Barrier analysis has been applied to demonstrate additionality, this must be confirmed using Common practice analysis.

3. Common practice analysis; applicants must identify other Australian projects that are similar to the proposed Greenhouse Friendly project implemented under comparable conditions, and determine whether the existence of any such projects refutes the additionality of the proposed Greenhouse Friendly project.

4. Impact of Greenhouse Friendly approval; applicants must explain how the approval of the proposed project under Greenhouse Friendly will enable it to be implemented.

Further detail on satisfying the requirements of these steps are outlined below.

Step 1 - Regulatory/compliance analysis

Applicants must demonstrate that the proposed Greenhouse Friendly project is not being implemented in order to comply with any Australian national or state law, regulation or licensing requirement. Any project that is implemented in order to bring the applicant into compliance with Australian national or state law does not satisfy the requirements of this step.

This requirement extends beyond regulation or compliance specifically in relation to greenhouse gas emissions. For example, if an applicant was required to plant trees as compensatory habitat for another area being cleared and developed, or an applicant was required to cover a waste water treatment pond, and then capture and flare the biogas collected to reduce odour as a component of a licence condition, then these potential projects would not pass the Regulatory/compliance analysis step.

This requirement may also extend beyond a specific legal, regulation or licensing requirement to include, for instance, Australian national or state government policy or guidelines. For example, the Victorian Government's *Best Practice Environmental Management Guideline: Siting, Design, Operation and Rehabilitiation of Landfills* includes the flaring of methane from landfills as a suggested measure. As a consequence a proposed methane flaring project at a landfill based in Victoria would need to address this in the Regulatory/compliance analysis step.

Outcome of regulatory/compliance analysis

If it can be demonstrated that the proposed Greenhouse Friendly project was not implemented to comply with any Australian national or state law, regulation or licensing requirement then proceed to Step 2A or 2B – Investment **or** Barrier analysis.

Otherwise the project is considered not additional.

Step 2A - Investment analysis

Investment analysis is typically the most effective way of establishing the additionality of a proposed Greenhouse Friendly project. Applicants should use the Investment analysis approach to demonstrate the additionality of a proposed Greenhouse Friendly project, unless it can be shown that this approach is inappropriate to the project in which case an applicant can choose to use the Barrier analysis method.

Use of Investment analysis to demonstrate additionality requires proof that the proposed Greenhouse Friendly project will rely upon future revenue from the sale of approved Greenhouse Friendly abatement in order to be financially viable or attractive.

Investment analysis options

There are three different options for demonstrating additionality using Investment analysis.

I. Simple cost analysis: additionality may be demonstrated by showing that the proposed Greenhouse Friendly project will generate no commercial benefit other than revenue from the sale of approved Greenhouse Friendly abatement, and will therefore not be financially viable without Greenhouse Friendly approval. Examples of projects suited to simple cost analysis could include certain forest sink projects and some demand management projects (for example projects involving the giveaway of compact fluorescent light (CFL) globes).

   Use of simple cost analysis will require the applicant to provide documentary evidence that the project will generate no commercial benefit other than revenue from the sale of approved Greenhouse Friendly abatement.

   If it is concluded that the proposed Greenhouse Friendly project does not generate any other commercial benefit than Greenhouse Friendly related income and is thus not financially attractive without Greenhouse Friendly approval then proceed to Step 3 - Common practice analysis.

II. Investment comparison analysis: where a proposed Greenhouse Friendly project may generate commercial benefit independent of Greenhouse Friendly approval, additionality may be demonstrated by showing that the proposed Greenhouse Friendly project is financially unattractive compared to other projects in which the applicant might reasonably choose to invest.

Demonstration of additionality using investment comparison analysis involves the following sub-steps.

a. Identify and justify alternative projects comparable to the proposed Greenhouse Friendly project in which the applicant might reasonably choose to invest and that deliver comparable outputs with comparable quality, properties etc. For example a power generator that owns a range of thermal and renewable power assets, and which is considering the development of a wind power project under the Greenhouse Friendly initiative, might identify possible coal and gas fired generation projects as appropriate alternatives.

b. Select an appropriate financial indicator with which to compare the various investment options, including the proposed Greenhouse Friendly project. For example internal rate of return (IRR), net present value (NPV) or unit cost of service (e.g. cost of electricity generation in $/MWh).

c. Calculate the value of the chosen financial indicator for each investment option identified. This calculation should take account of all relevant revenue, excluding that from the sale of Greenhouse Friendly abatement, but including subsidies and grants, and all costs, including operation and maintenance expenses and debt or other finance costs.

d. Compare the value of the financial indicator for the proposed Greenhouse Friendly project with the financial indicator of the nominated alternatives If one of the nominated alternatives has a more favourable indicator (e.g. higher IRR) than then proposed Greenhouse Friendly project, then the proposed Greenhouse Friendly project cannot be regarded as the most financially attractive.

Use of investment comparison analysis will require the applicant to provide documentary evidence of all financial, economic and technical parameters relevant to the proposed project and various alternatives, as well as all assumptions used in the financial analysis, such that a third party could repeat the analysis and reach the same results.

III. Benchmark analysis: additionality may be demonstrated by showing that a proposed Greenhouse Friendly project is financially unattractive when analysed against an objective investment benchmark.

Demonstration of additionality using benchmark analysis involves the following sub-steps.

a. Select an appropriate financial indicator (such as NPV, IRR or unit cost of service) that can be used to compare the proposed Greenhouse Friendly project against an objective investment benchmark.

b. Determine an objective benchmark that represents the threshold below which a project of the type proposed ceases to be financially attractive. This threshold must represent standard returns expected from the market based on the type of project proposed, the level of risk involved and type of entity proposing to implement the project.

Examples of benchmarks that may be applied include:

- government bond rates, adapted to the project risk profile;
- the cost of finance and required return on capital (such as commercial lending rates or required returns from private equity funds); or

- an internal company benchmark, such as weighted average cost of capital (WACC). The applicant must demonstrate that this benchmark has been consistently used in the past. For example, project activities under similar conditions developed by the same company used the same benchmark.

c. Calculate the value of the chosen financial indicator for the proposed Greenhouse Friendly project. This calculation should take account of all relevant revenue, excluding that from the sale of Greenhouse Friendly abatement, but including subsidies and grants, and all costs, including operation and maintenance expenses and debt or other finance costs.

d. Compare the value of the financial indicator for the proposed Greenhouse Friendly project with the value of the nominated financial benchmark. If the proposed Greenhouse Friendly project has a less favourable indicator (e.g. lower IRR) than then benchmark, then the proposed Greenhouse Friendly project cannot be regarded as financially attractive.

Use of benchmark analysis will require the applicant to provide documentary evidence of all relevant financial, economic and technical parameters, as well as all assumptions used to derive the benchmark and perform the financial analysis, such that a third party could repeat the analysis and reach the same results.

Sensitivity analysis

If undertaking an investment comparison analysis or benchmark analysis, applicants must include a sensitivity analysis that demonstrates that the conclusion reached regarding the financial attractiveness of the proposed Greenhouse Friendly project is supported when subject to reasonable variations in critical assumptions. The critical assumptions might include variations in capital and operation and maintenance expenses, or the revenue from project outputs (other than the sale of Greenhouse Friendly abatement).

The additionality of the proposed Greenhouse Friendly project is only valid if the sensitivity analysis consistently supports for the nominated range of assumptions the conclusion that the proposed Greenhouse Friendly project is unlikely to be the most financially attractive alternative (investment comparison analysis) or is unlikely to be financially attractive (benchmark analysis).

Outcome of investment analysis

If at the end of the sensitivity analysis it can be concluded that the proposed Greenhouse Friendly project is unlikely to be the most financially attractive alternative (investment comparison analysis) or is unlikely to be financially attractive (benchmark analysis), then proceed to Step 3 - Common practice analysis.

Otherwise, unless Step 2B - Barrier analysis is undertaken and indicates that the proposed Greenhouse Friendly project faces barriers that prevent its implementation, then the project is considered not additional.

Step 2B - Barrier analysis

In cases where applicants can demonstrate that Investment analysis would be an inappropriate or unsuitable means of demonstrating additionality, Barrier analysis may be used instead. Barrier analysis involves demonstrating the existence of one or more barriers to a proposed Greenhouse Friendly project that can only be overcome and the project implemented with Greenhouse Friendly approval.

Examples of potential barriers

Examples of barriers that might be appropriate to demonstrate additionality using the Barrier analysis approach include:

- Technical barriers: the proposed project may require specific technologies, infrastructure or skills which are not presently available leading to an unacceptably high risk of project under performance.
- Barriers due to prevailing practice: the proposed project may represent a departure from prevailing practice as the "first of its kind".
- Investment barriers: the proposed project may face investment barriers other than those addressed in the investment analysis described above. Examples of such barriers could include a reliance on grants or other non-commercial finance for similar projects, or a lack of private capital to implement the project due to perceived high risk associated with the proposed Greenhouse Friendly project.

The identified barriers are only appropriate if they would prevent the implementation of the proposed project without Greenhouse Friendly approval.

Outcome of barrier analysis

If at the end of the barrier analysis it can be concluded that there are barriers preventing the implementation of the proposed Greenhouse Friendly project that can only be overcome with Greenhouse Friendly approval, then proceed to Step 3 - Common practice analysis.

Otherwise, the project is considered not additional.

Step 3 - Common practice analysis

Once the additionality of a proposed abatement project has been demonstrated using either Investment analysis or Barrier analysis, it must be confirmed by reference to current common practice. This step in the demonstration of additionality is essentially a credibility check to complement the previous steps undertaken and is intended to ascertain:

- whether projects similar to the proposed project are commonly implemented in Australia under comparable conditions without Greenhouse Friendly approval; and
- if this is the case:
  - whether this refutes the additionality of the proposed project, or
  - whether the proposed project can be distinguished from these similar projects implemented without Greenhouse Friendly approval.

Common practice analysis involves the following sub-steps:

a. Identification of any Australian projects completed or currently being implemented that are similar to the proposed Greenhouse Friendly project implemented under comparable conditions. If no such projects can be identified, the common practice analysis requirement may be considered to have been satisfied.

b. Identification of whether any projects identified in sub-step 'a.' (immediately above) have been approved under Greenhouse Friendly.

c. If projects similar to the proposed Greenhouse Friendly project are commonly implemented in Australia under comparable conditions without Greenhouse Friendly approval then it calls into question the claim that the project is financially unattractive (as contended in Step 2 - Investment analysis) or faces barriers that prevent its implementation (as contended in Step 2A - Barrier analysis). The applicant must therefore demonstrate that the existence of these projects does not refute the additionality of the proposed project by:

   - distinguishing the proposed project from all similar projects implemented without Greenhouse Friendly approval; and
   - explaining why this distinction means that these other projects do not face the investment or other barriers facing the proposed Greenhouse Friendly project.

Outcome of common practice analysis

If projects comparable to the proposed Greenhouse Friendly project implemented under comparable conditions in Australia cannot be observed, or comparable projects are observed but can be reasonably distinguished from the proposed Greenhouse Friendly project, then proceed to Step 4 - Impact of Greenhouse Friendly approval.

Otherwise the project is considered not additional.

Step 4 - Impact of *Greenhouse Friendly* approval

Clearly explain how the approval of the proposed project under Greenhouse Friendly will improve the financial attractiveness of the project (if Step 2A - Investment analysis has been used) or alleviate the nominated barriers (if Step 2B - Barrier analysis has been used) thus enabling the proposed project to be implemented.

Outcome of impact of Greenhouse Friendly approval

If it can be clearly explained how the proposed Greenhouse Friendly project is reliant upon revenue from the sale of Greenhouse Friendly abatement, then the proposed project is additional for the purposes of the Greenhouse Friendly initiative.

Otherwise the project is considered not additional.

Hypothetical additionality example

An applicant is considering the development of a 500MW combined cycle natural gas generation project under the Greenhouse Friendly initiative.

Step 1 - Regulatory compliance analysis

- The applicant demonstrated that the proposed Greenhouse Friendly project is not required for compliance with any Australian national or state law, regulation, licensing agreement, policy or guideline.

Step 2A - Investment analysis:

- The applicant elected to utilise Step 2A, part III Benchmark analysis.
- The applicant selected the IRR as the financial indicator to undertake the Investment analysis.

- The applicant elected to use its internal WACC as the investment benchmark against which to compare the financial attractiveness of the proposed Greenhouse Friendly project. The applicant demonstrated that it has consistently used a WACC as an investment benchmark for large infrastructure projects in the past.
- The applicant prepared a financial model that calculates the IRR of the proposed Greenhouse Friendly project.
- The applicant compared the IRR of the proposed Greenhouse Friendly project with the WACC. The IRR was lower than the WACC.
- A sensitivity analysis around key project variables in the financial model was undertaken. This involved recalculating the IRR of the proposed Greenhouse Friendly project following changes to the following variables:
    - ±10% variation in the quantity of electricity generated.
    - ±10% variation in the electricity tariff.
    - ±10% variation in the capital and operation and maintenance expenses.
- The IRR of the project was lower than the WACC of the applicant even when the variables in the sensitivity analysis changed in favour of the proposed Greenhouse Friendly project.

Step 2B - Barrier analysis:

- A Barrier analysis was not undertaken.

Step 3 - Common practice analysis:

- The applicant identified that there were 2 existing privately owned combined cycle natural gas fired generators with capacities greater than 100MW in Australia. Neither of the two projects has been approved under the Greenhouse Friendly initiative.
- The applicant distinguished the proposed Greenhouse Friendly project from the two existing comparable projects on the basis that:
    - the nearest transmission node from the proposed Greenhouse Friendly project was over 150km away. The applicant was responsible for the costs associated with the design and installation of the high voltage cabling to connect the generator to the transmission network.
    - the applicant demonstrated that because of the location of the proposed Greenhouse Friendly project its installed cost/MW was substantially higher than the 2 comparable projects.
- This conclusion supported that claims made under Step 2A regarding the financial attractiveness of the proposed Greenhouse Friendly project.

Step 4 - Impact of *Greenhouse Friendly* approval:

- Using the financial model prepared under Step 2A – Investment analysis the applicant demonstrated that the IRR of the proposed Greenhouse Friendly project slightly exceeded its internal WACC when the revenue from the sale of the Greenhouse Friendly abatement was included therefore increasing the financial attractiveness of the project.